

Bonneville Power Administration

Conservation & Renewables Discount Program

Interim Report to the Region

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Interim Report on the Bonneville Power Administration Conservation & Renewable Discount Program

SECTION 1 -- Historical Perspective

In December 1996, the Steering Committee for the Governors' Comprehensive Regional Review issued a set of recommendations that provided for maximum local control in implementing cost-effective conservation, renewables and low-income energy services, while ensuring stable funding.¹ The Steering Committee further recommended that 3 percent of regional electricity sales revenues be dedicated to these purposes through July 2007.

Another recommendation was to establish a Regional Technical Forum (RTF) to develop standardized protocols for verification and evaluation of energy savings, to track regional progress toward the achievement of the region's conservation and renewable resource goals, and to provide feedback for improving the effectiveness of conservation and renewable resource development programs in the region. The RTF was established in April 1999.

The idea for a Conservation and Renewables Discount (C&RD) surfaced as part of the BPA subscription process in September 1998. A major goal of subscription was to provide market incentives for the development of conservation and renewables. Building the C&RD into the 5-year rate structure protects the credits from the volatility of the budgeting process and gives utility conservation managers the ability to plan consistent programs and hire staff. C&RD was approved in May 2000, and launched in early 2001.

The C&RD was designed to create incremental efficiency gains and renewable energy supplies, and to provide incentives to continue the region's progress in low-income weatherization programs. C&RD also promotes local control and management of conservation and renewable programs.

SECTION 2 -- Program Overview

The C&RD credit is a 0.5 mill discount off the BPA firm power rate. The amount of each customer's C&RD discount is determined by multiplying 0.5 mills times the amount of subscription load placed on BPA. Thus, the total annual credit approximates \$37 million with an expected total credit for the 2002 - 2006 rate period of \$185 million.²

A credit is earned from the installation of conservation measures or by making other qualifying expenditures for renewable energy, qualified research projects, or through donations to qualifying organizations. At the end of the rate period, customers pay BPA for any C&RD credits not accounted for. Customer utilities submit annual reports

¹ Comprehensive Review of the Northwest Energy System Final Report, page 7, December 12, 1996.

² The actual total C&RD credit available over the rate period will be based upon the actual loads placed on BPA. Current projections of the total credit available for the 2002-2006 rate period are \$175 million or about \$35 million per year over the 5-year rate period.

detailing installation of approved conservation measures and/or spending. The credit may be spent at any time during the rate period.

The RTF provides a central forum for discussion of technical issues around savings and credits for the C&RD. The RTF developed an accessible web-site tracking and calculation system that has been almost universally accepted as a method for reporting C&RD conservation credits to BPA.

SECTION 3 -- C&RD Credits Claimed by Participating Customers

Seventy-nine BPA customers provide individual reports annually to claim C&RD credits. The Pacific Northwest Generating Cooperative (PNGC) submits one report for its 15 member utilities and the Idaho Energy Authority Pooling Group (IDEAs Group) submits one report for eight customers. Thirty-one of BPA's customers with purchases under 7.5 aMWs are not required to submit a report.

The summaries below show C&RD spending patterns from fiscal year 2001 – 2003.³ Table 1 summarizes savings and claims made for the C&RD. Table 2 provides more detailed information on donations and renewable claims.

- 60 percent of the total \$175 million credit available has been claimed;
- 11 customers claimed their entire credit; 21 customers claimed at least 60 percent of their credit;
- Conservation measures account for 69 percent of the credits claimed, resulting in approximately 37.4 aMWs of conservation savings; and
- \$13.9 million has been spent on renewable resource initiatives. (BPA guaranteed \$6 million per year would be spent.)

About \$47.3 million has been claimed for residential sector measures, producing more than 20.4 aMWs.

The commercial and industrial sectors both showed dramatic increases in FY 2003 from the FY 2001 and 2002 totals. Combined, more than \$15 million in credits were claimed for these sectors, producing 8.4 aMWs in energy savings.

Donations increased steadily from \$1.01 million in FY 2001 to over \$6.4 million in FY 2003, with the largest donations made to the Northwest Energy Efficiency Alliance (NEEA) and the U.S. DOE Low-Income Weatherization Subgrantees.

Claims for renewable resources increased in FY 2002 (\$5.6 million) and 2003 (\$8.1 million) from the FY 2001 claims of \$91.4 thousand.

³ Summaries based on data from the C&RD reporting system as of November 18, 2003.

Table 1:

Conservation and Renewable Discount Summary
 (Based on data from C&RD tracking software, November 18, 2003)

	FY01		FY02		FY03		FY01, FY02, & FY03	
	Savings (aMW)	\$	Savings (aMW)	\$	Savings (aMW)	\$	Savings (aMW)	Total \$
Residential	3.552	\$ 6,041,630	12.516	\$ 23,408,135	8.316	\$ 17,887,518	24.384	\$ 47,337,283
Commercial	0.342	\$ 693,513	1.708	\$ 2,638,809	3.819	\$ 7,044,985	5.870	\$ 10,377,307
Industrial	0.442	\$ 105,154	0.676	\$ 1,571,767	1.435	\$ 3,004,441	2.552	\$ 4,681,362
Agricultural ¹	0.261	\$ 315,912	0.363	\$ 485,897	0.334	\$ 447,004	0.958	\$ 1,248,813
Utility System	0.000	\$ --	0.217	\$ 63,369	0.218	\$ 493,207	0.435	\$ 556,576
Other ²	0.007	\$ 1,574	0.160	\$ 222,550	0.218	\$ 485,197	0.385	\$ 709,321
Low Income Wx	0.014	\$ 922,098	0.209	\$ 3,004,274	0.209	\$ 3,128,804	0.432	\$ 7,055,176
Conservation Total	4.617	\$ 8,079,881	15.850	\$ 31,394,801	14.549	\$ 32,491,156	35.016	\$ 71,965,838
Administration		\$ --		\$ 4,161,097		\$ 4,410,086		\$ 8,571,183
Admin - Small Utils ³		\$ --		\$ 503,524		\$ 501,029		\$ 1,004,553
Donations		\$ 74,030		\$ 3,867,698		\$ 4,102,061		\$ 8,043,789
RD&D Projects		\$ --		\$ 67,910		\$ 35,467		\$ 103,377
Renewable		\$ 91,482		\$ 5,627,096		\$ 8,182,340		\$ 13,900,918
Irrigation Scheduling		\$ 966,625		\$ 328,448		\$ 120,000		\$ 1,415,073
Grand Total (\$ spent)		\$ 9,212,018		\$ 45,950,574		\$ 49,842,139		\$ 105,004,731

¹ Excludes Irrigation Scheduling savings numbers.

² The "Other" category includes vending machine controls, street lighting, etc.

³ Not in C&RD Software database.

Table 2**Summary of Donations and Renewables**

(Based on data from the C&RD reporting system, November 18, 2003)

Donations	FY01	FY02	FY03	Total
Unlimited				
U.S. DOE Subgrantee Weatherization	\$ 851,474	\$1,624,984	\$1,810,529	\$ 4,286,987
NEEA	\$ 45,133	\$1,548,996	\$1,955,860	\$ 3,549,989
BEF	\$ 81,149	--	\$ 210,153	\$ 291,302
ETO	--	\$2,146,200	\$2,146,200	\$ 4,292,400
Limited	\$ 38,897	\$ 227,501	\$ 301,245	\$ 567,643
Donations Total	\$ 1,016,653	\$5,547,681	\$6,423,987	\$12,988,321

Renewables	FY01	FY02	FY03	Total
Donations (BEF, Last Mile, Solar Rad. Lab)	\$ 91,149	\$ 55,000	\$ 307,060	\$ 453,209
Direct Application (PV & SDWH)	--	\$ 20,438	\$ 24,852	\$ 45,290
EPP (BPA)	--	\$1,680,293	\$1,205,596	\$2,885,889
Blended Products (BPA)	--	\$ 18,394	\$ 23,383	\$ 41,777
Facilities – Claim Production	\$ 333	\$ 21,308	\$3,541,019	\$3,562,660
Facilities – Claim Purchase	--	\$3,831,663	\$3,019,177	\$6,850,840
Green Tags - BEF	--	--	\$ 61,253	\$ 61,253
Renewables Total	\$ 91,482	\$5,627,096	\$8,182,340	\$13,900,918

SECTION 4 -- Additional Detail

Table 3 summarizes individual measures with significant claims by sector.

Commercial retrofits were the largest category of projects. Buildings upgrades across the region included new windows, added insulation, and upgraded HVAC and lighting systems. The majority of the C&RD credits were residential. Compact fluorescent bulbs (CFLs) account for \$18.8 million with claimed savings of 10.29 aMWs. Other leading measures include windows, insulation and air source heat pumps. Duct sealing showed substantial gains in FY 2003.

Clothes washers and water heaters led in the appliance category. Other appliances claimed, but not shown in Table 3, include refrigerators, freezers, dishwashers, room air conditioners and electronic thermostats. In total, C&RD claims for all appliances sold represent thousands of individual units purchased throughout the region.

The substantial increase in industrial projects in FY 2003 represents the growth in industrial sector participation since the launching of the C&RD. The composition of the projects evolved from predominately motor replacements and vacuum pumps in dairies in FY 2002, to pumps, blowers, and other similar longer-term planning-type efficiency projects in FY 2003.

Table 3

Summary of C&RD Measures with Significant Claims (Part 1)

	-- FY01 --		-- FY02 --		-- FY03 --		Total	
	Busbar Savings aMWs	Credit (\$)	Busbar Savings aMWs	Credit (\$)	Busbar Savings aMWs	Credit (\$)	Busbar Savings aMWs	Credit (\$)
Commercial								
Retrofits	0.19	\$437,846	1.34	\$1,849,725	3.31	\$5,817,047	4.85	\$ 8,104,618
Heating&Air Conditioning	0.00	\$0	0.24	\$467,283	0.18	\$503,848	0.42	\$ 971,131
Lamp & Mag. Ballast Replacement w/T-8 Elect.	0.09	\$185,175	0.02	\$39,393	0.14	\$309,859	0.25	\$ 534,427
Insulation	0.06	\$65,997	0.04	\$118,067	0.04	\$154,616	0.14	\$ 338,680
Residential								
CFLs	2.24	\$3,189,019	5.50	\$10,363,926	2.55	\$5,318,596	10.29	\$ 18,871,541
Air Source Heat Pump Conversions	0.16	\$442,956	1.60	\$4,261,232	1.31	\$3,467,074	3.07	\$ 8,171,262
Windows - Site Built Homes	0.06	\$237,755	0.69	\$2,923,085	0.59	\$2,446,048	1.34	\$ 5,606,888
Insulation - Site Built Homes	0.27	\$458,845	0.85	\$2,631,909	0.34	\$1,637,916	1.46	\$ 4,728,670
Clothes washers	0.14	\$340,234	0.38	\$926,754	0.90	\$2,210,318	1.41	\$ 3,477,306
Super Good Cents for Manufactured Housing	0.01	\$46,782	0.16	\$627,654	0.22	\$860,738	0.39	\$ 1,535,174
H2O heaters - energy efficient electric	0.09	\$180,792	0.26	\$455,335	0.19	\$336,432	0.54	\$ 972,559
Multifamily New Construction - Built Smart	0.22	\$913,644	0.00	\$0	0.00	\$0	0.22	\$ 913,644
Duct Sealing and Weatherization	0.01	\$18,735	0.08	\$251,946	0.17	\$547,557	0.25	\$ 818,238
Ground or Water Source Heat Pump Conversions	0.01	\$31,743	0.10	\$327,098	0.11	\$362,770	0.21	\$ 721,611
Industrial								
Process Energy	0.41	\$36,000	0.45	\$1,050,776	0.24	\$508,117	1.10	\$ 1,594,893
Compressed Air	0.00	\$0	0.00	\$0	0.55	\$1,431,100	0.55	\$ 1,431,100
Material Handling	0.00	\$0	0.00	\$0	0.17	\$397,055	0.17	\$ 397,055
Replace vs Rewind Premium Motor	0.00	\$8,530	0.15	\$361,131	0.00	\$3,039	0.16	\$ 372,700
Pumps and Fans	0.00	\$0	0.00	\$0	0.31	\$277,090	0.31	\$ 277,090
Plant Process Energy Efficiency	0.00	\$0	0.00	\$0	0.10	\$234,723	0.10	\$ 234,723

Summary of C&RD Measures with Significant Claims (Part 2)

	-- FY01 --		-- FY02 --		-- FY03 --		Total	
	Busbar Savings aMWs	Credit (\$)	Busbar Savings aMWs	Credit (\$)	Busbar Savings aMWs	Credit (\$)	Busbar Savings aMWs	Credit (\$)
Agricultural								
Hardware	0.00	\$0	0.32	\$419,449	0.00	\$0	0.32	\$ 419,449
Adjustable Speed Drives	0.00	\$0	0.00	\$0	0.29	\$368,486	0.29	\$ 368,486
Center Pivot Sprinkler Equipment	0.26	\$315,912	0.00	\$0	0.00	\$0	0.26	\$ 315,912
Utility System								
Distribution System Efficiency Improvements	0.00	\$0	0.00	\$1,038	0.10	\$464,734	0.10	\$ 465,772
Other								
LED Traffic Signals	0.00	\$0	0.02	\$60,304	0.12	\$359,497	0.15	\$ 419,801
Renewables								
Facilities - Claim Purchase	0.00	\$0	31.11	\$3,831,663	26.03	\$3,157,257	57.14	\$ 6,988,920
Facilities - Claim Production	0.00	\$333	0.24	\$21,308	26.98	\$3,541,019	27.22	\$ 3,562,660
EPP (BPA)	0.00	\$0	17.81	\$1,680,293	19.45	\$1,374,138	37.26	\$ 3,054,431
Low-Income								
Donations	0.00	\$851,474	0.00	\$1,624,985	0.00	\$1,810,530	0.00	\$ 4,286,989
Windows Site Built Homes	0.00	\$9,912	0.11	\$884,576	0.07	\$650,683	0.18	\$ 1,545,171
Insulation Site Built Homes	0.00	\$13,145	0.06	\$304,833	0.10	\$518,558	0.16	\$ 836,536
Water Management								
Irrigation Scheduling		\$966,625		\$328,448		\$120,000		\$ 1,415,073

Table 4 shows that the majority of the credits received for conservation measures installed occurred in public utility service areas. Further, as shown in Table 5, the majority of savings and the associated claims occurred in Washington. Table 6 summarizes Low-Income Weatherization activities including donations made and project specific accomplishments.

Table 4⁴

Conservation Total By Organizational Type		
	Savings (AMWs)	Credit Claimed
Public	33.77	\$ 70,048,344
Private	3.60	\$ 3,156,449
Total	37.37	\$ 73,204,793

Table 5

Conservation Total By State		
	Savings (AMWs)	Credit Claimed
Washington	22.76	\$ 49,831,923
Oregon	9.41	\$ 13,781,957
Idaho	0.76	\$ 2,286,455
Montana	0.30	\$ 886,073
Wyoming	0.42	\$ 802,687
California	0.26	\$ 152,202
Nevada	0.12	\$ 440,453
PNGC ⁵	3.35	\$ 5,023,044
Total	37.37	\$ 73,204,793

⁴ Claimed amount shown in Tables 4 and 5 include administration.

⁵ Pacific Northwest Generating Cooperative (PNGC) represents 15 utilities in four states. PNGC data are not separable by state.

Table 6**Low-income Weatherization**

	Donations Made	Project-Specific Activities	
		Savings (AMWs)	Credit Claimed
Washington	\$ 3,211,828	0.31	\$ 2,130,104
Oregon	\$ 878,774	0.13	\$ 533,992
Idaho	\$ 100,232	--	--
Montana	\$ 10,000	--	--
Nevada	\$ 67,712	--	--
PNGC	\$ 18,444	0.03	\$ 105,006
Total	\$ 4,286,989	0.48	\$ 2,769,102